

Date: Tuesday, 3/11/2008 9:58:26 AM  
 User: Kim Johnston

## Process Sheet

Customer	CU-DAR001 Dart Helicopters Services		Drawing Name	DOUBLER	
Job Number	37773		Part Number	D314097	
Estimate Number	11468		Drawing Number	D3140 REV F	
P.O. Number			Project Number	N/A	
This Issue	3/11/2008	S.O. No.	Drawing Revision	F	
Prsht Rev.	NC		Material		
First Issue	/ /	Type	Due Date	Qty:	4 Um: Each
Previous Run	27379				
Written By	<u>JM</u>				
Checked & Approved By	<u>JM</u>				
Comment	Est. A 02.04.30 New Issue NG Est. Rev B New dwg rev. ecn781 06.04.18 EC Est Rev:C Now on Waterjet 06-06-08 JLM Est. rev.D added scuffing NCR 061 EC Est Rev:E As per ECN #829 06-11-20 JLM				

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M2024T3S032	2024-T3 .032 sheet
Comment: Qty.: 0.1796 sf(s)/Unit Total : 0.7182 sf(s) 2024-T3 .032 sheet Matl: 2024-T3 ( QQ-A-250/4 ) .032" thick ( M2024T3S.032 ) Batch <u>105555</u> HB 8-3-19		
2.0	WATER JET	FLOW WATER JET
Comment: FLOW WATER JET 1-Cut as per Dwg D3140 ***ENSURE THAT GRAIN DIRECTION IS CORRECT**** Dwg Rev: <u>F</u> HB 8-3-19 Prog Rev: <u>F</u>		
2-Deburr if necessary HB 8-3-19		

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 3/11/2008 9:58:26 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: DOUBLER

Job Number: 37773

Part Number: D314097

Job Number:



Seq. #: Machine Or Operation:

Description :

5.0 SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Form as per Dwg D3140

SB 08/03/28

(4)

2-Scuff surfaces with 80grit sandpaper per QSI 006

3

08/03/31

(4)

3-Deburr.

No sharp edges

6.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/03/31 (4)

7.0 HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

BK

08-03-31

(4)

8.0 QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08-03-31

(4)

9.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 68

10/03/31 (4)

1

10.0 QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/04/03 JJ

Job Completion



MF

08-03-31

M

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**DART**

DESIGN <i>CB</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>JLH</i>	APPROVED <i>JLH</i>	DRAWING NO. D3140	REV. F SHEET 1 OF 7
DATE 06.10.06		TITLE DOOR	SCALE NTS
A	02.04.18	NEW ISSUE	
B	03.01.23	REMOVE -65/-81/-83; ADD -301/-303	
C	04.11.08	CHANGE DELASTEK SPEC. TEC-77; ADD PART MARKING; ADD NOTES 11, 12, 13; CHANGE ANGLE -95/-97/-98 TO 106°	
D	05.11.23	ADD -103/-104/-105/-106; REMOVE -67	
E	06.06.09	1.75 WAS 1.88, 4.75 WAS 4.13 ON -08/-07, 1.00 WAS 1.20 ON -09/-10	
F	06.10.06	ADD NOTE 14; CORRECT PART TITLE, NOW D3140-09/-92/-104 SHOWN D3140-10/-91/-103 OPPOSITE	

QTY -05	QTY -06	QTY -07	QTY -08	QTY -09	QTY -10	PART NUMBER	DESCRIPTION	
X						D3140-05	DOOR	
	X					D3140-06	DOOR	
		X				D3140-07	DOOR	
			X			D3140-08	DOOR	
				1	X	D3140-09	DOUBLER ASSEMBLY	
					1	D3140-10	DOUBLER ASSEMBLY	
3	3					D3140-57	PAD	
1	1					D3140-59	PAD	
2	2					D3140-61	PAD	
2	2					D3140-63	PAD	
			1	1		D3140-69	PAD	
				1		D3140-71	PAD	
				1		D3140-73	PAD	
				1		D3140-75	PAD	
				1		D3140-77	PAD	SHOP COPY
				1	1	D3140-79	PAD	RETURN TO ENGINEERING
					1	D3140-85	ANGLE	
1	1					D3140-87	DOUBLER	
					1	D3140-89	DOUBLER	UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE
			1			D3140-91	DOUBLER	
				1		D3140-92	DOUBLER	
3	3					D3140-95	DOUBLER	
1						D3140-97	DOUBLER	WORK ORDER NO. <i>37773</i>
	1					D3140-98	DOUBLER	
			1	1		D3140-99	DOUBLER	
			2	2		D3140-101	DOUBLER	
			1			D3140-103	DOUBLER	
				1		D3140-104	DOUBLER	
				1		D3140-105	DOUBLER	
				1		D3140-106	DOUBLER	
1	1					D3140-241	DOUBLER	
1		1				D3140-301	DOUBLER	
1			1			D3140-303	DOUBLER	
					5	MS20426AD3-4	RIVET	



Copyright © 2002 by DART AEROSPACE LTD

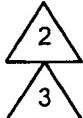
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**DART**

DESIGN <i>CB</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3140	REV. F SHEET 2 OF 7
DATE 06.10.06	TITLE DOOR	SCALE NTS	



COMPOSITE LAYUP & BONDING I.A.W. DELASTEK PROCESS SPEC. TEC-77  
 MATERIAL STORAGE & HANDLING TO BE I.A.W. DART QSI 006  
 MAIN LAYUP USES FIBERCOTE E-761/7781 EPOXY FIBERGLASS.  
 FILL WITH EPOCAST 87269 OR MAGNOBOND 77 A & B AND MA560 FOAM/ NB-51/30 FOAM



FINISH: DUPONT HIGHBUILD GREY PRIMER 1144-S



MAKE PARTS IN ACCORDANCE WITH THE FOLLOWING TOOLS/MOLDS:

PART	TOOL
D3140-05	B30-23000-01T
D3140-06	B30-23000-02T
D3140-07	B30-23000-03T
D3140-08	B30-23000-04T
D3140-57	B30-23000-57T
D3140-61	B30-23000-61T
D3140-63	B30-23000-63T
D3140-69	B30-23000-69T
D3140-71	B30-23000-71T
D3140-73	B30-23000-73T
D3140-75	B30-23000-75T
D3140-77	B30-23000-77T
D3140-79	B30-23000-79T
D3140-89	D3140-89T1
D3140-301	D3140-301T1
D3140-303	D3140-303T1

**RELEASED**

06.11.13



MATERIAL: 2024-T3 (QQ-A-250/4) 0.032 THICK (M2024T3S.032)  
 FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1



MATERIAL: 2024-T3 (QQ-A-250/4) 0.020 THICK (M2024T3S.020)  
 FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1



MATERIAL: 5052-H32/H34 (QQ-A-250/8) 0.040 THICK (M5052H32S.040)  
 FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1



MATERIAL: POLIMEX TR75 1" THICK 4.5 LB KLEGECCELL



ALL DIMENSIONS IN INCHES



TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



MATERIAL: 6061-T6 (QQ-A-250/11) 0.063 THICK (M6061-T6S.063)  
 FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1



DOUBLER TO SIT ON TOP OF FOAM AT THIS LOCATION



DOUBLER TO BE RECESSED FLUSH INTO FOAM AT THIS LOCATION



RUBBER STAMP WITH DART P/N D3140-05/-06/-07/-08 USING MIL-STD-130



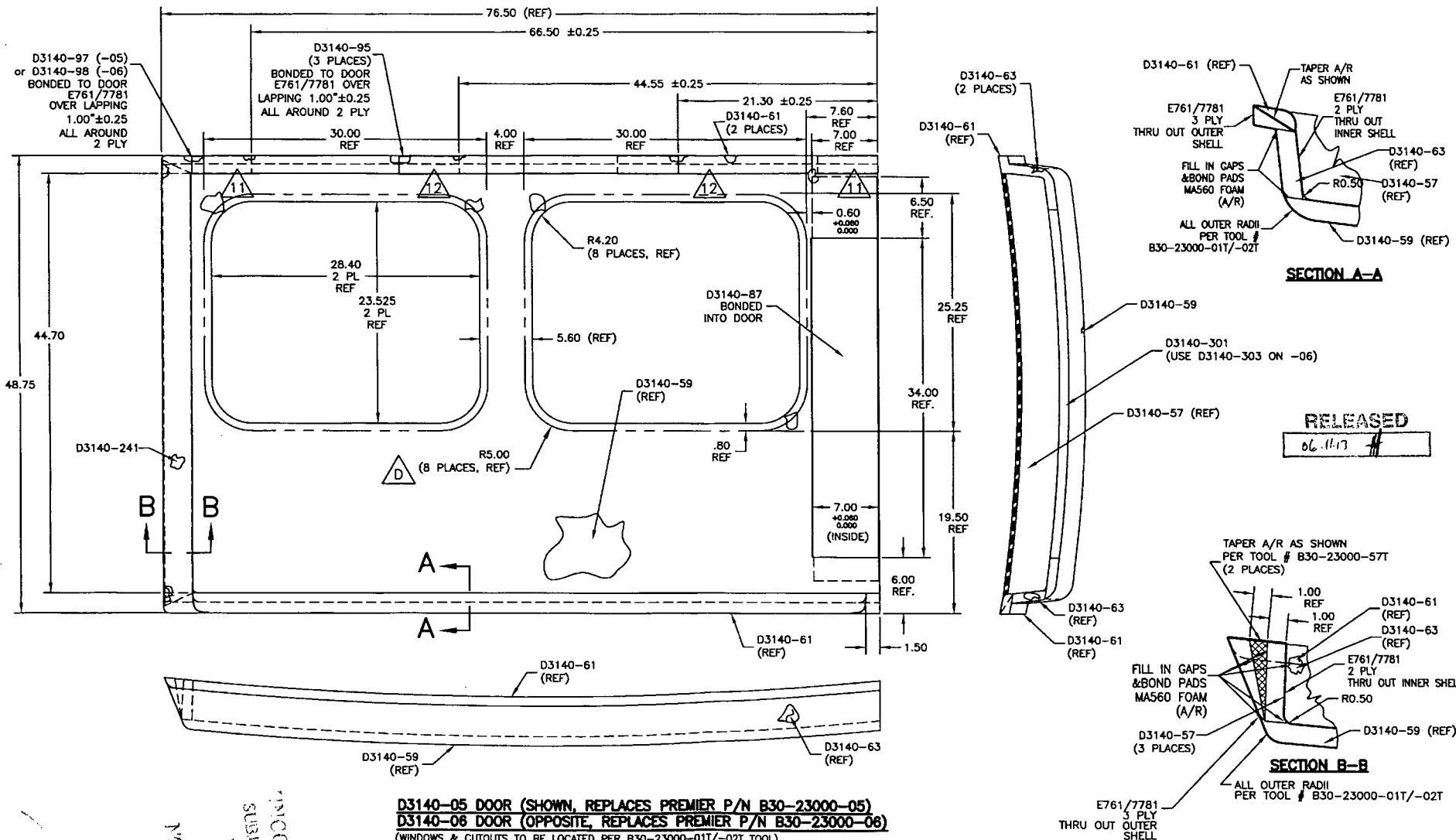
PARTS MUST BE SCUFFED WITH 80 GRIT SANDPAPER PRIOR TO ACID ETCH AND  
 ALODINE PER DART QSI 005 4.1

SHOP COPY  
 RETURN TO  
 ENGINEERING  
**UNCONTROLLED COPY**  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. *37773*



Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED  
 OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

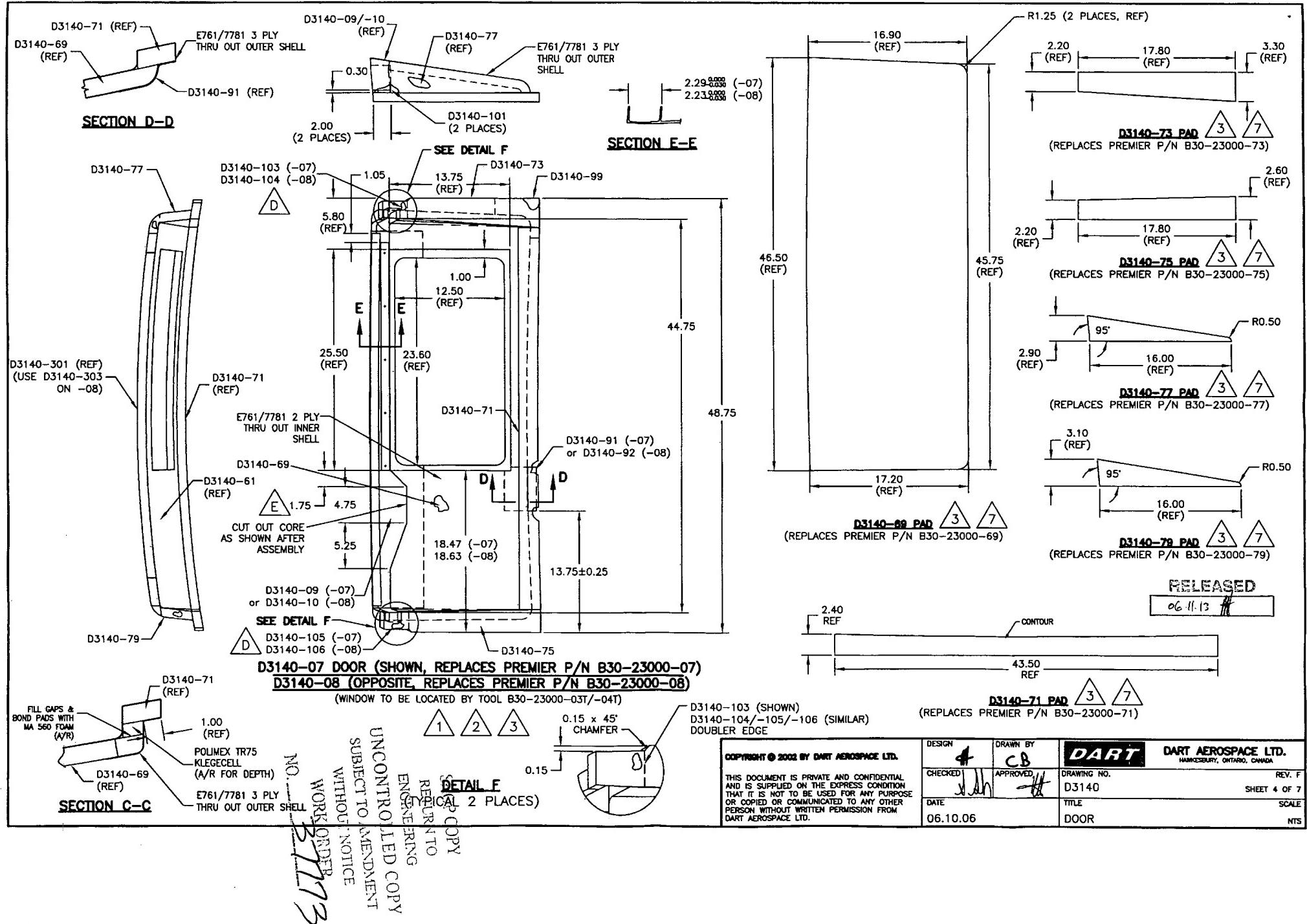


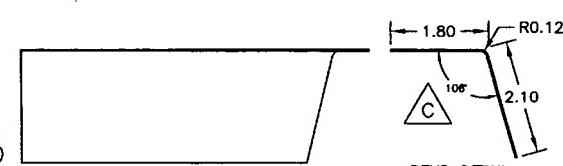
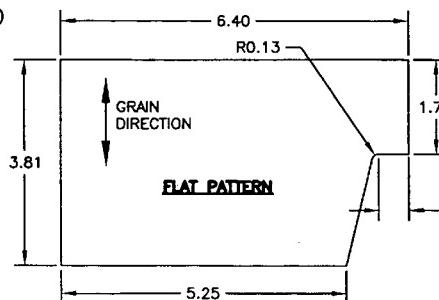
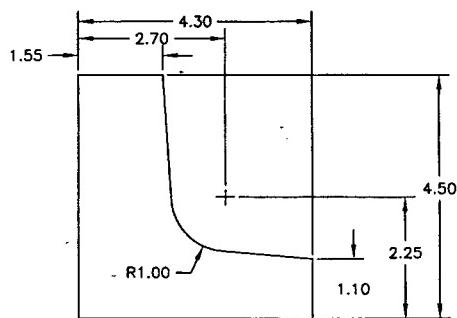
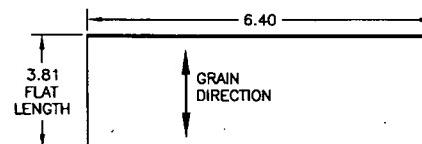
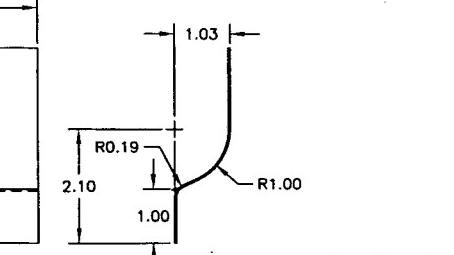
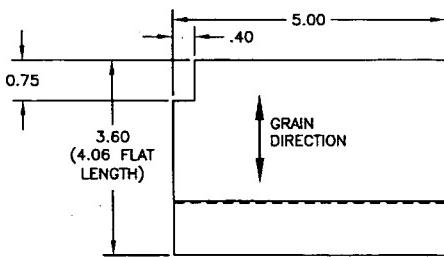
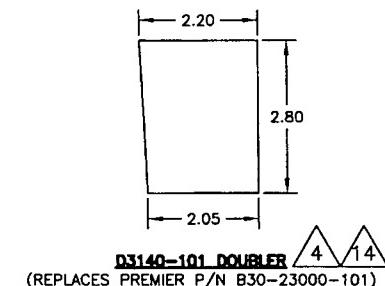
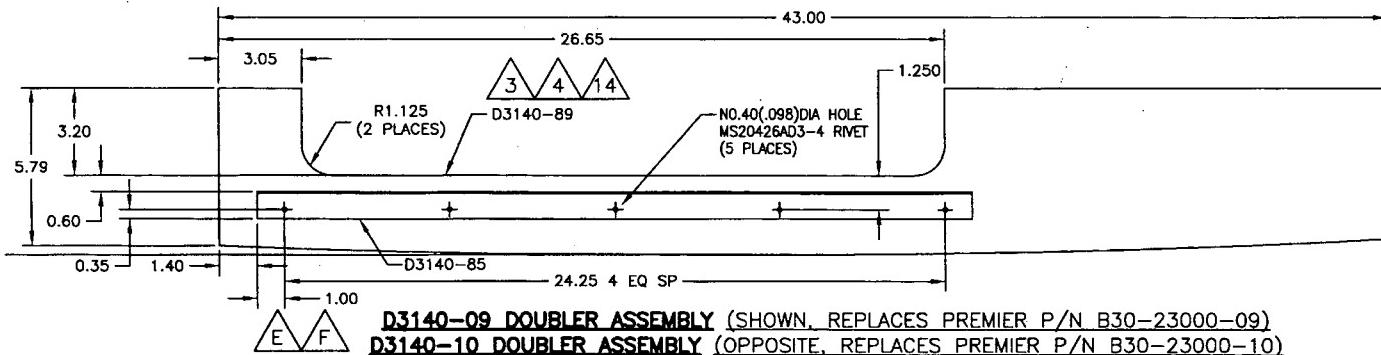
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER NO. 37723

COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HAWTHORPE, ONTARIO, CANADA
4	CB		REV. F DRAWING NO. D3140
CHECKED	APPROVED		SHEET 3 OF 7
DATE	06.10.06	TITLE DOOR	SCALE NTS

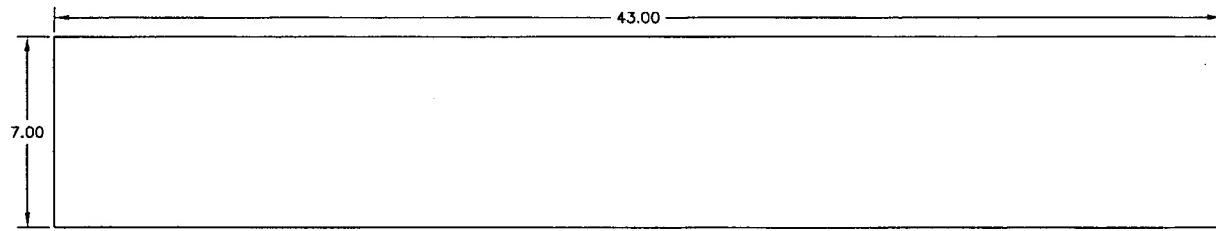




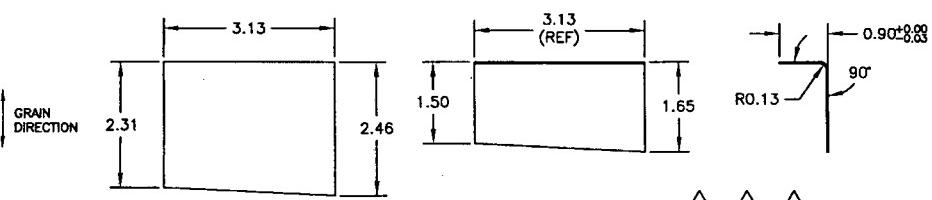
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
NO. 3140-97-3  
WORK ORDER

DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HANDBURY, ONTARIO, CANADA
CHECKED	APPROVED		REV. F SHEET 5 OF 7
DATE		DRAWING NO. D3140	SCALE NTS
06.10.06		TITLE DOOR	

COPYRIGHT © 2002 BY DART AEROSPACE LTD.  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.



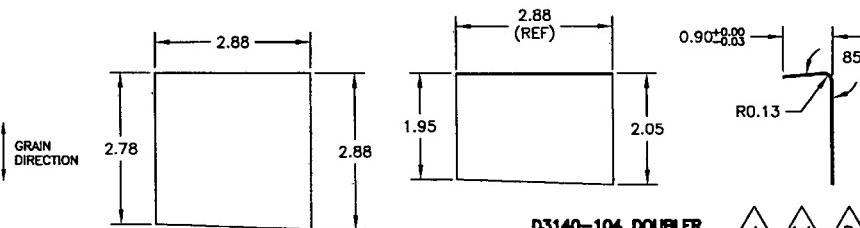
**D3140-87 DOUBLER** 4 14  
(REPLACES PREMIER P/N B30-23000-87)



**D3140-105F FLAT PATTERN**  
(USED TO MAKE D3140-105/-106 BRACKETS)

**D3140-105 DOUBLER**  
D3140-106 OPPOSITE

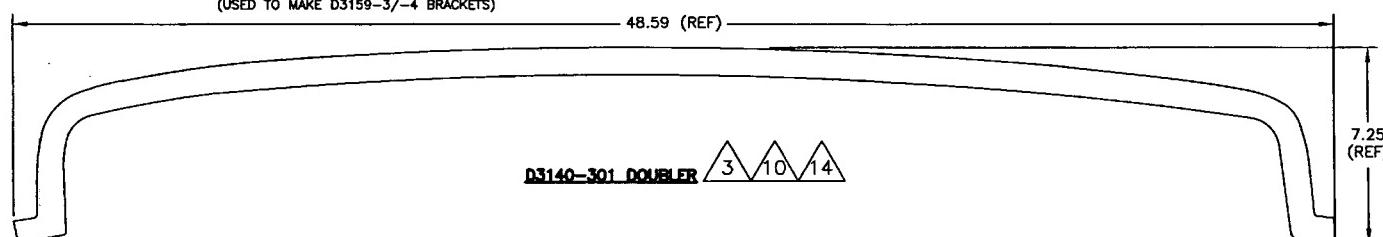
4 14 D



**D3140-104 DOUBLER**  
D3140-103 OPPOSITE

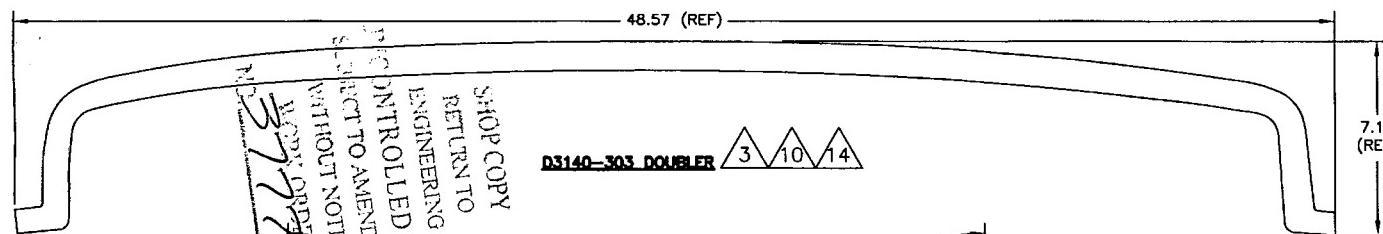
4 14 D F

**D3140-103F FLAT PATTERN**  
(USED TO MAKE D3140-103/-104 BRACKETS)

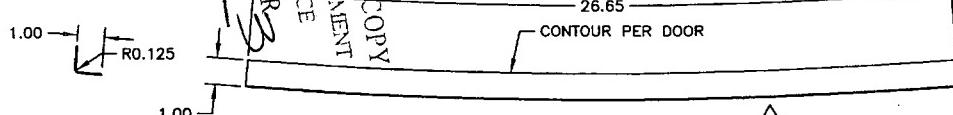


RELEASED  
06.10.06

**D3140-301 DOUBLER** 3 10 14



**D3140-303 DOUBLER** 3 10 14

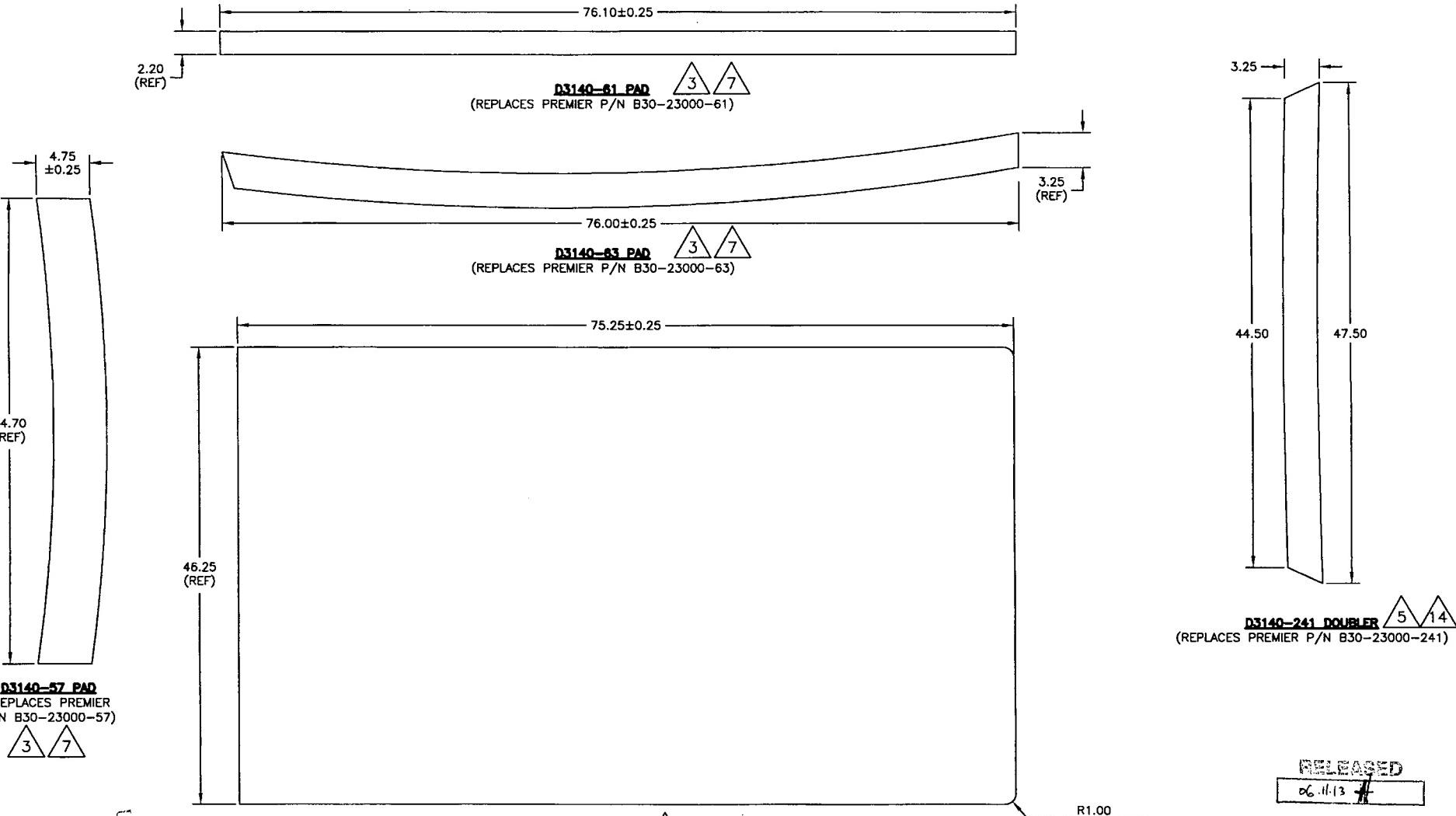


**D3140-85 ANGLE** 6  
FLAT PATTERN: 26.65" x 1.90"  
(REPLACES PREMIER P/N B30-23000-85)

COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HALIFAX, NS, CANADA
4	CB		REV. F
CHECKED	APPROVED		DRAWING NO.
			D3140
DATE			SHEET 6 OF 7
06.10.06			SCALE
			NTS



RELEASED  
06.11.13

**D3140-59 PAD**

(REPLACES PREMIER P/N B30-23000-59)

NO. 27773  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY

COPYRIGHT © 2002 BY DART AEROSPACE LTD.	DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCIAL OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	CHECKED	APPROVED	DRAWING NO. D3140	REV. F SHEET 7 OF 7
	DATE 06.10.06		TITLE DOOR	SCALE NTS

DART AEROSPACE LTD	Work Order:	37773
Description: Doubler	Part Number:	D 3140-97
Inspection Dwg: D2440-47 Rev: F		Page 1 of 1

# **FIRST ARTICLE INSPECTION CHECKLIST**

## X First Article      Prototype

Measured by:	<u>LB</u>	Audited by:	<u>S</u>	Prototype Approval:	<u>A</u>
Date:	9-3-19	Date:	08/31/19	Date:	12

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	